

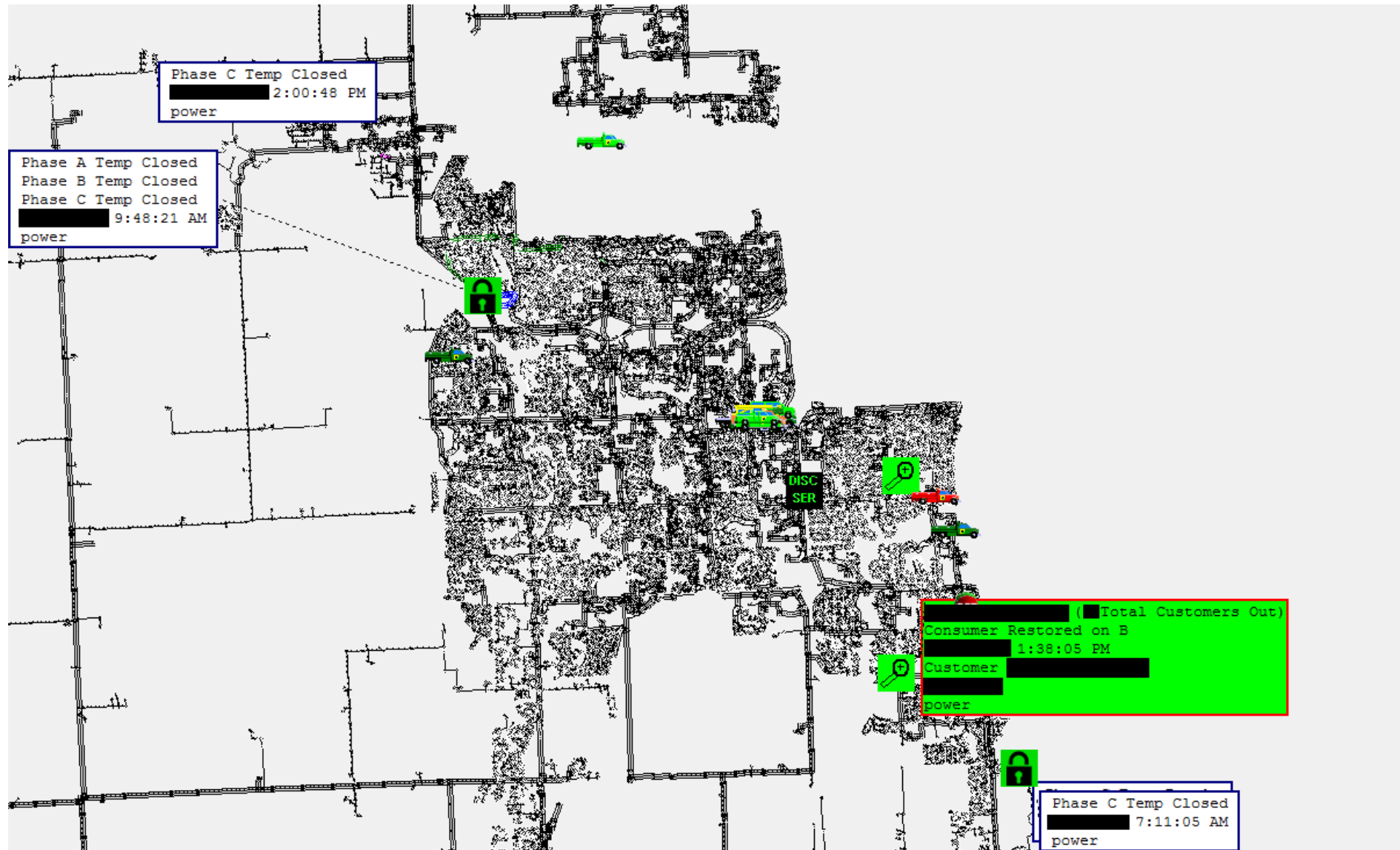


QUANTA
TECHNOLOGY
A QUANTA SERVICES COMPANY

WE ARE QUANTA

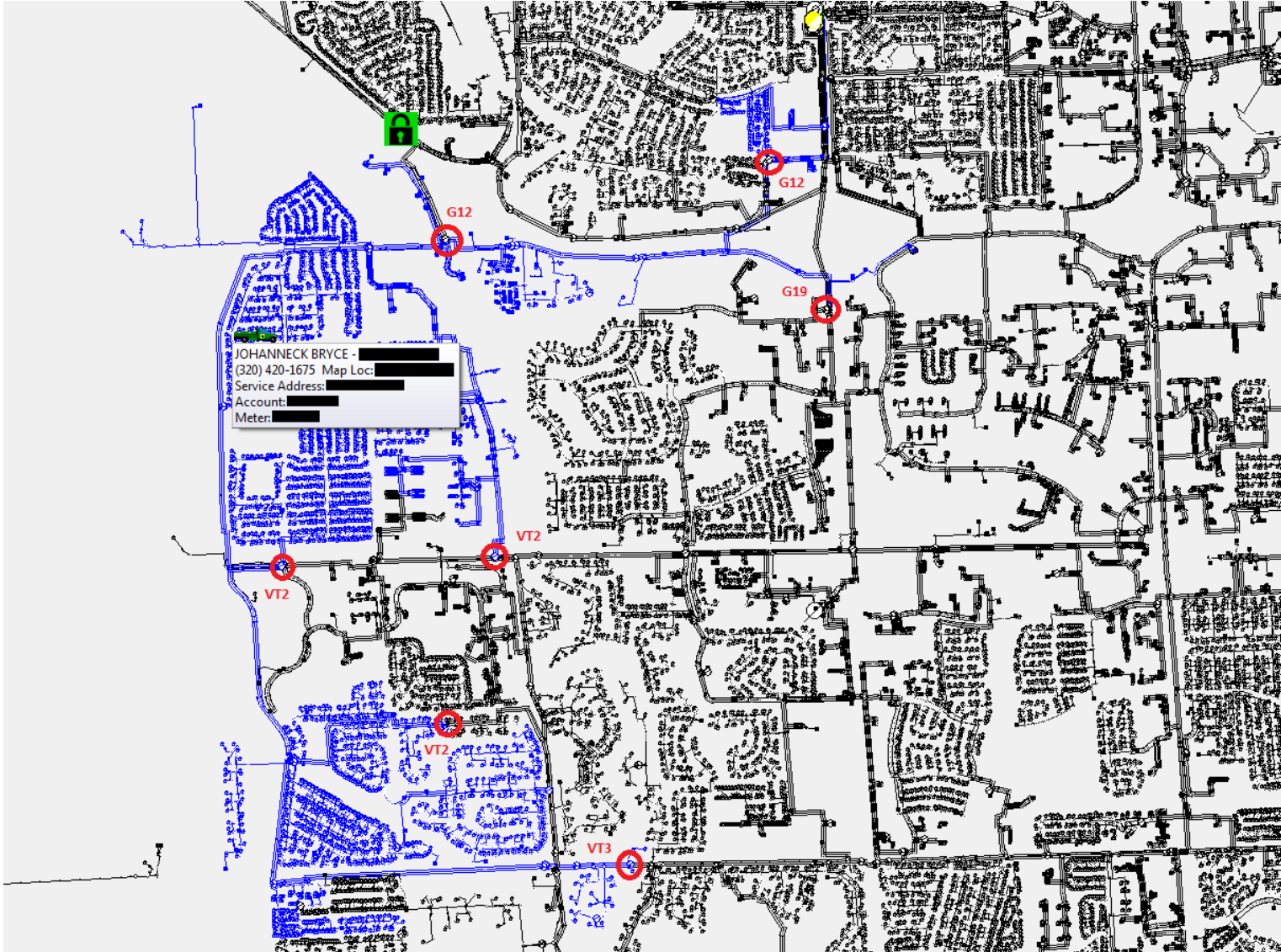
World-Class People.
Unmatched Execution.

Urban Distribution Connectivity Model



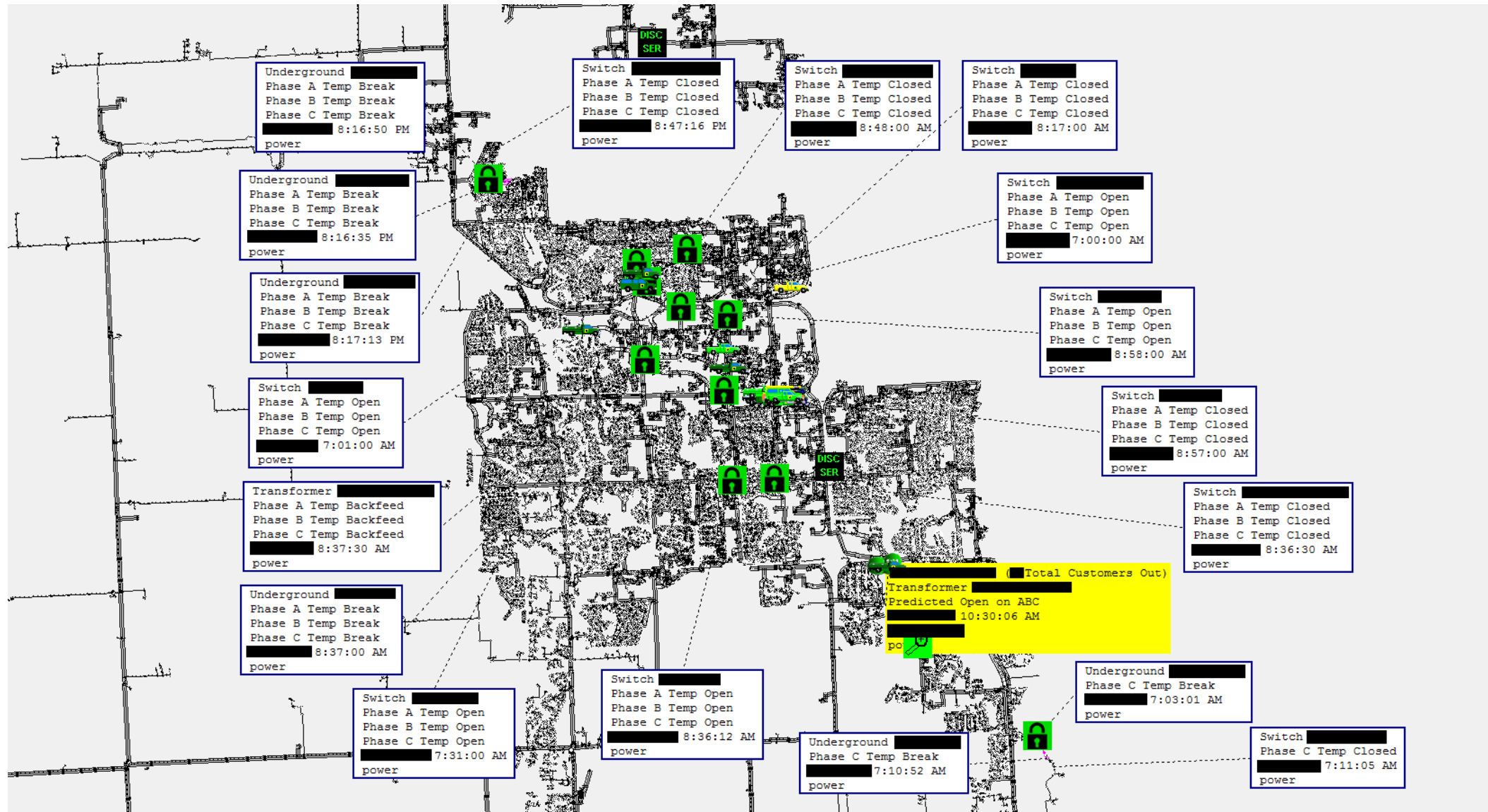


One Feeder & Alternates



- Parent:Child Relationships
- Definitions of Assets
 - Sub/Bus/Feeder/Phase
- Definitions Change
- Normal vs Abnormal
 - ...Iterative

Monday Morning





Medium Voltage Nodes – Switches/Elbows

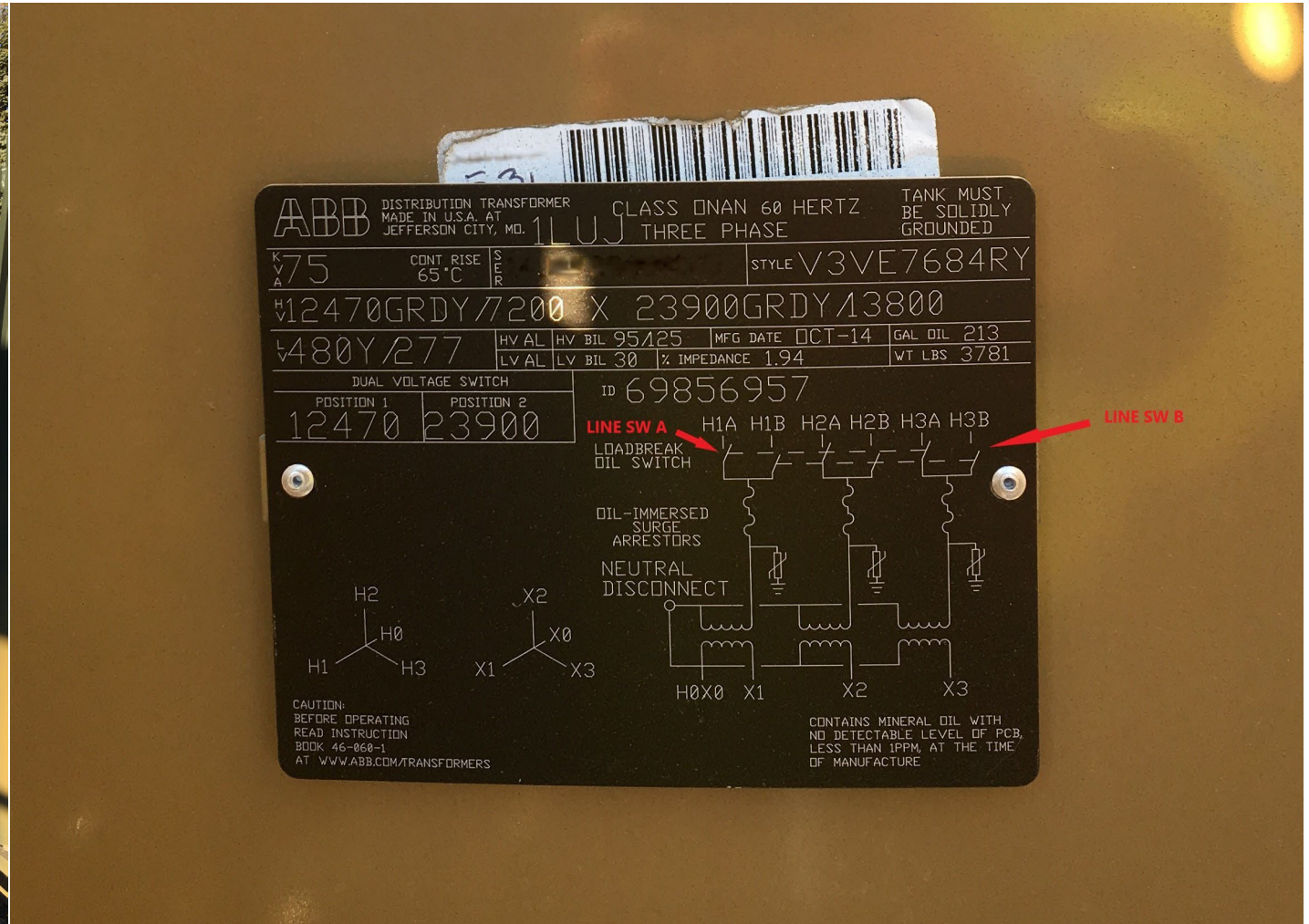


S&C PAD-MOUNTED GEAR	
OVERALL RATINGS:	
VOLTAGE, KV	
NOMINAL	14.4
MAX. DESIGN	17.5
BIL	95
POWER FREQ. WITHSTAND	35
POWER FREQ., HZ	60
SHORT-CIRCUIT:	
AMPERES, PEAK, PEAK WITHSTAND	65 000
AMPERES, RMS SYM., ONE-SEC. SHORT-TIME WITHSTAND	25 000
MVA, THREE-PHASE SYM. AT RATED NOMINAL VOLTAGE	620
MAIN BUS RATINGS, AMPERES:	
CONTINUOUS CURRENT	600
SHORT-CIRCUIT:	
PEAK, PEAK WITHSTAND	65 000
RMS SYM., ONE-SEC. SHORT-TIME WITHSTAND	25 000
MINI-RUPTER® SWITCH RATINGS, AMPERES:	
CONTINUOUS CURRENT	600
LIVE SWITCHING:	
LOAD SPLITTING AND LOAD DROPPING	600
SHORT-CIRCUIT:	
PEAK, PEAK WITHSTAND	65 000
RMS SYM., ONE-SEC. SHORT-TIME WITHSTAND	25 000
FAULT-MAKING, DUTY-CYCLE, THREE-TIME:	
PEAK	65 000
RMS SYM.	25 000
CAUTION—Before operating, inspecting, or maintaining this switchgear, refer to the applicable S&C Instruction Sheet(s).	
S&C ELECTRIC COMPANY CHICAGO, ILLINOIS MADE IN U.S.A. G-5374R1	





Medium Voltage Nodes - Transformers





Distribution Switching Example & Quantity

Engineering and Operations

Date:

To: Power Control, Linecrew

From:

Re: Switching to isolate cable to cut in **junction box** and change feeds to lift station. Outage is scheduled from 9-11 a.m. on

1. Power Control get permission to tie S #2 and #3
2. Power Control set regulators on S #2 and #3
3. Set VFI going south/west in **switch A** to 200A
4. Close tie in **transformer B**
5. Open going north in **transformer C**
6. Pull and park A, B, C phase elbows going south in **switch A**
7. After new junction box is cut in and ready to move east feed out of **transformer C**, move on to step 8, there will be an outage for Z meters.
8. Open B phase going north out of **transformer B**
9. Open A phase going east out of **transformer D**
10. Open C phase going east out of **transformer E**
11. Pull and Park A, B, C phase elbows going east and west on feed thru insert on **transformer C**
12. Remove feed thru insert in **transformer C**
13. Plug back on cables feeding west in **transformer C**

Note: Power control check for any hold tags in area.

Back to normal:

1. Make sure VFI going south/west in **switch A** is set to 200A
2. Power Control get permission to tie S #2 and #3
3. Power Control set regulators on S #2 and #3
4. Plug on A, B, C phase elbows going south in **switch A**
5. Close B phase going north in **transformer B**
6. Close A phase going east in **transformer D**
7. Close C phase going east in **transformer E**
8. Close in going north at **transformer C**
9. Open back at normal open going north in **transformer B**

Day of Week	Day Offset	Quantity of Meters Impacted
Monday	DAY	7916
Sunday	DAY -1	0
Saturday	DAY -2	0
Friday	DAY -3	1122
Thursday	DAY -4	2
Wednesday	DAY -5	3850
Tuesday	DAY -6	9115
Monday	DAY -7	0
Sunday	DAY -8	0
Saturday	DAY -9	0
Friday	DAY -10	0
Thursday	DAY -11	0
Wednesday	DAY -12	0
Tuesday	DAY -13	1
Monday	DAY -14	4
Sunday	DAY -15	0
Saturday	DAY -16	0
Friday	DAY -17	4
Thursday	DAY -18	582
Wednesday	DAY -19	0
Tuesday	DAY -20	1
Monday	DAY -21	592
Sunday	DAY -22	0
Saturday	DAY -23	0
Friday	DAY -24	0
Thursday	DAY -25	0
Wednesday	DAY -26	0
Tuesday	DAY -27	0
Monday	DAY -28	367
Sunday	DAY -29	0
Saturday	DAY -30	0
Friday	DAY -31	182



Extra Stats

HOW TO QUANTIFY

Switching

Consider how to quantify distribution switching, and give thought to how switching impacts your work. Remember that Medium Voltage Live Line Work Practices dictate that nodes will be added to 120V– 34.5 kV infrastructure as needed, including mid-span (i.e. cutting in a Hoist)...which takes 5 minutes.

- Thousands to Tens of Thousands (minimum #) of meters change their Sub/Feeder/Phase changes per day

Utility 2

15M Meters

- 16,000 Temp Ops in OMS in 9 months
- 8,000 at a SCADA device
- 8,000 at non-SCADA devices

Utility 3

15M Meters

Quanta Technology

2025 Locations



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